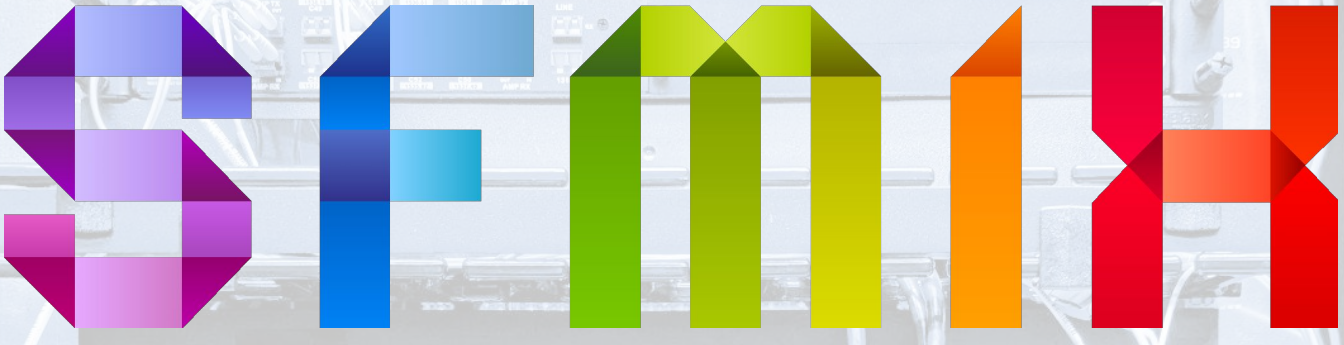


Members Meeting

October 29th, 2026

Agenda

01 Introductions

02 Board Elections

03 Traffic

04 Participants

05 Accomplishments & Plans

06 Deployments in & outside of the Bay

07 Financials

Introductions All Around

EXECUTIVE DIRECTOR

Matt

BOARD MEMBERS

Robert, Lee, Chris, Brian, AJ, Walt

VOLUNTEERS

jof

PARTICIPANTS & FRIENDS

Everyone here tonight

Thank you Lee for hosting!

Meta

Board Elections

BOARD SEATS

3 seats open

Chris, Lee, & Walt up for re-election.. Call for candidates next week: see roles & responsibilities.

QUORUM

10% must vote

Our bylaws require a 10% quorum. Please vote!

IXP quorum requirements

Exchange	Quorum
Seattle	5%
Portland	10%
Minneapolis	10%
Miami	50%
Saskatoon	20%
SFMIX	10%

Percentages link to each exchange's bylaws.

Traffic Up 53% in a Year

457 Gbps

all-time high, Sunday Oct 19, 2026

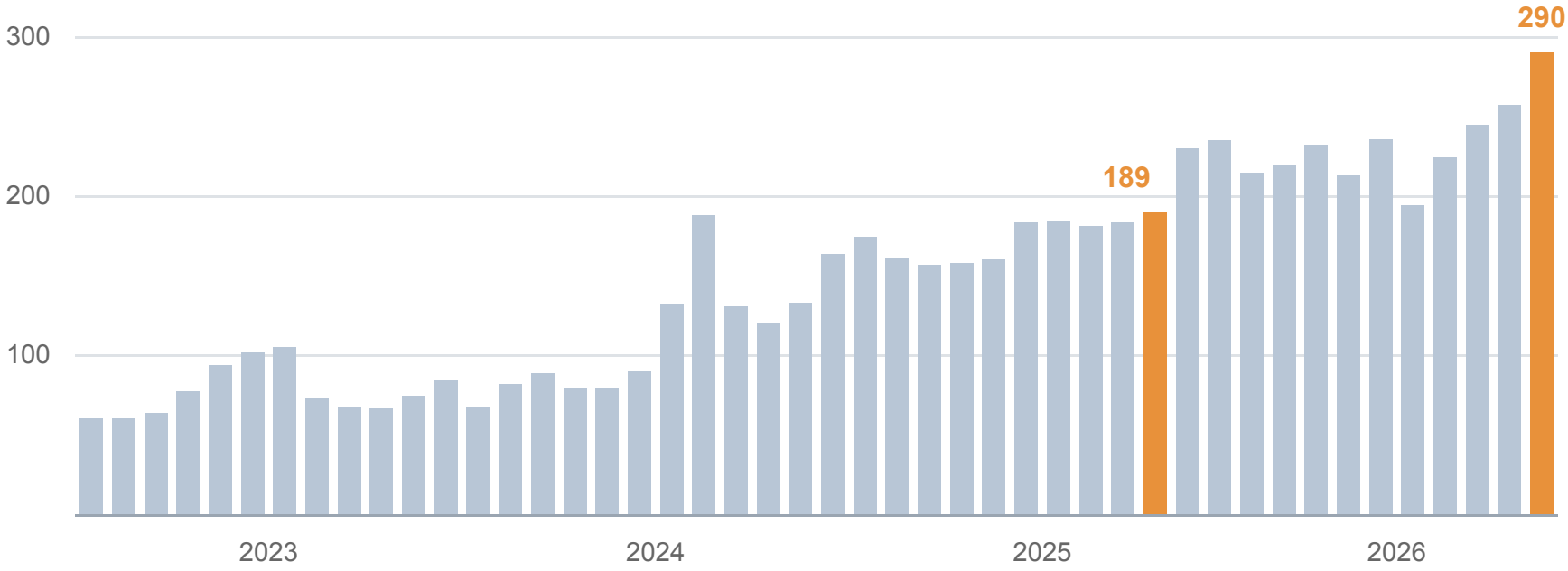
290 Gbps

Oct 2026 average, up from 189 Gbps in Oct 2025

350–390

Gbps, typical daily peak this month

Monthly average traffic, Gbps



Ingress on participant ports, daily means averaged by month (LibreNMS, Jan 2023 to Oct 2026). Peaks from Prometheus 30-second data.

At This Pace: 1 Tbps Peaks by Late 2028

50% / yr

average traffic growth since 2023 (trend fit)

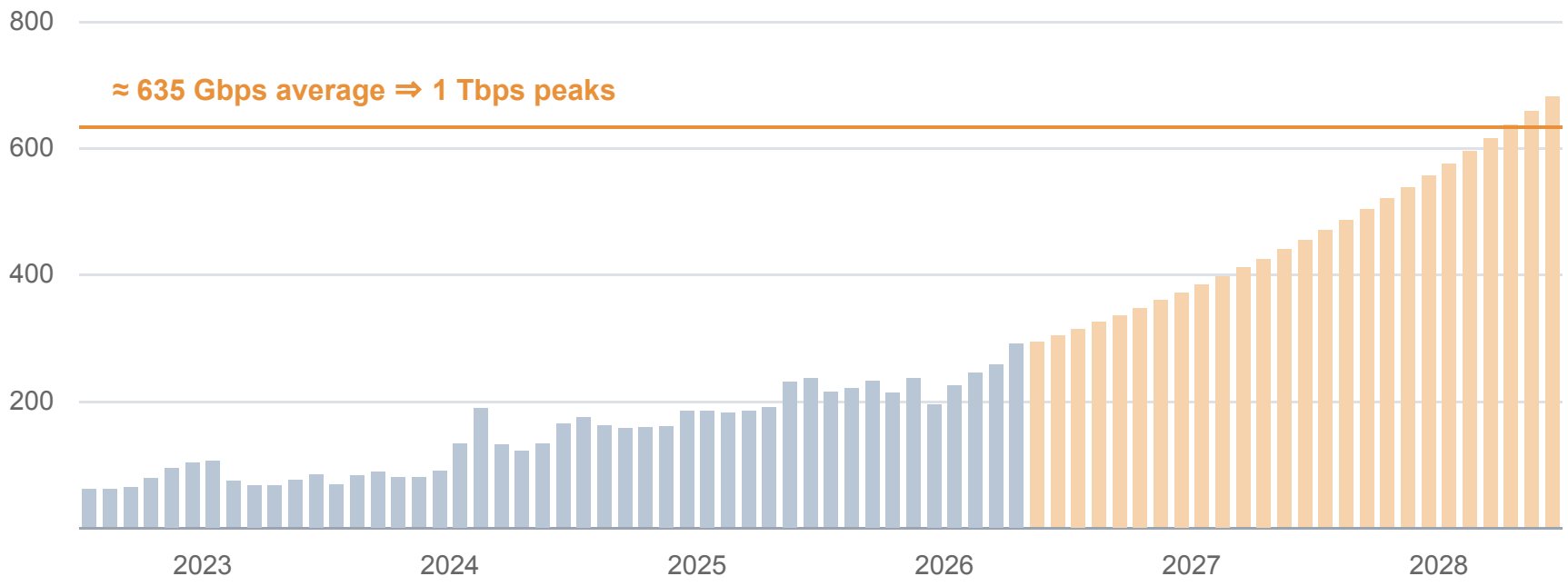
1.57×

peak-to-average ratio this October

~Oct 2028

when peaks would cross 1 Tbps at this pace

Monthly average traffic, Gbps: actual (solid) and trend projection (light)



Projection, not a forecast: log-linear fit of monthly averages Jan 2023 to Oct 2026 (LibreNMS), extended 26 months.

Participant Capacity Up 33% in a Year

5.0 Tbps

participant capacity, up from 3.8 Tbps

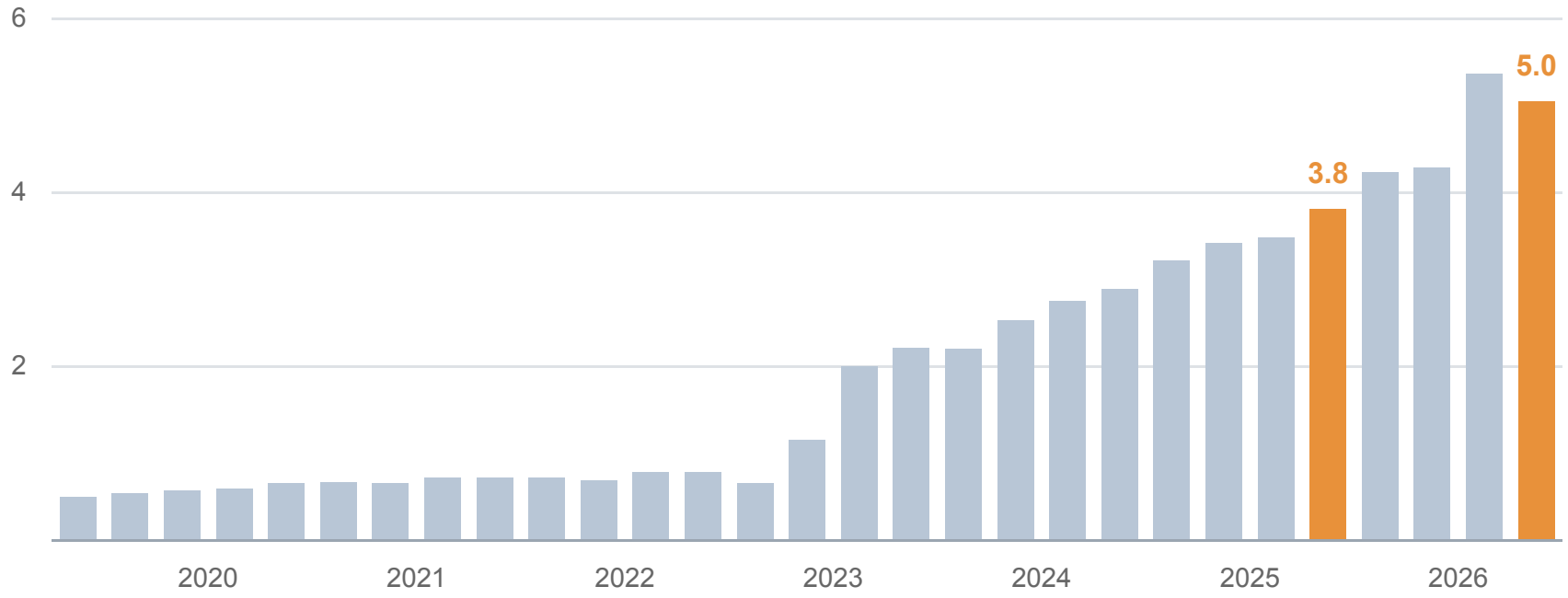
42 × 100G

participant ports at 100G, up from 30

103

networks with an SFMIX port, up from 96

Participant port capacity, Tbps (quarterly)



Physical participant ports in switch configs (Oxidized), Oct 2019 to Oct 2026. Jul 2026 includes ports configured in both SJC01 cabinets during the move. Excludes two configured but unused 100G ports.

100G Took Over

83%

of participant capacity is now 100G

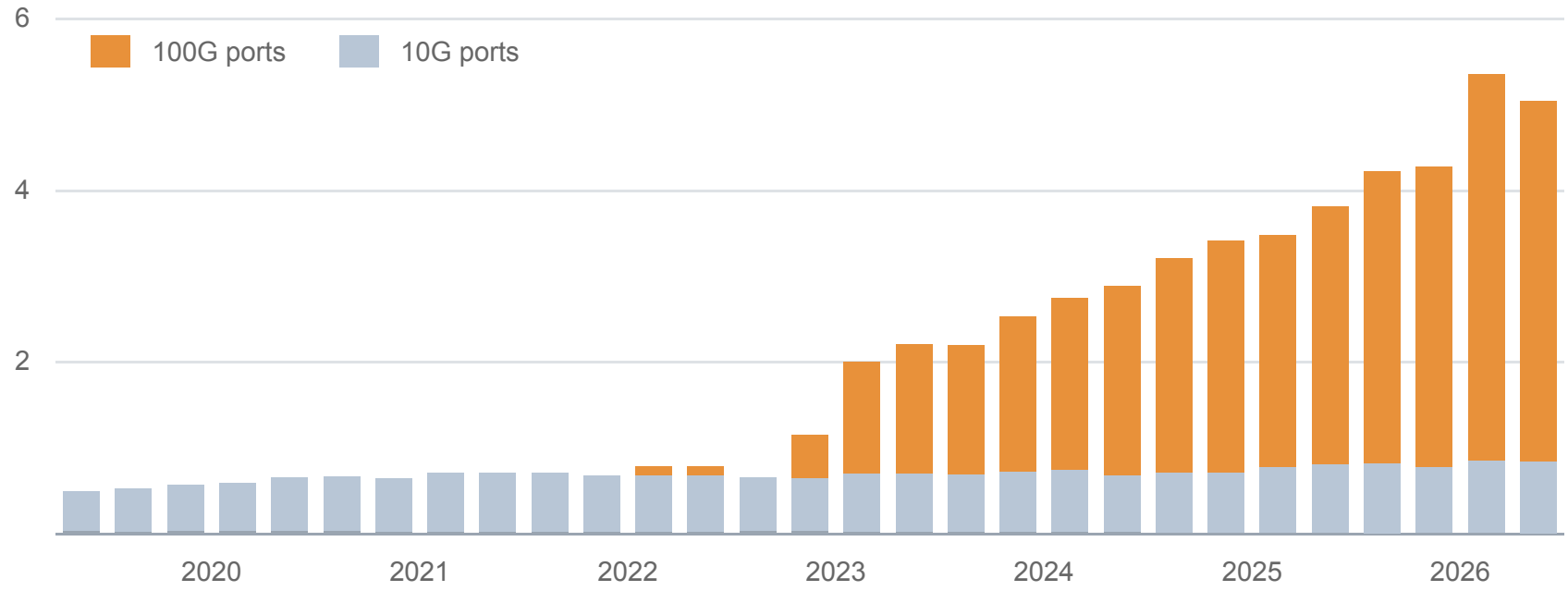
42

100G participant ports; the first arrived in 2022

5.0 Tbps

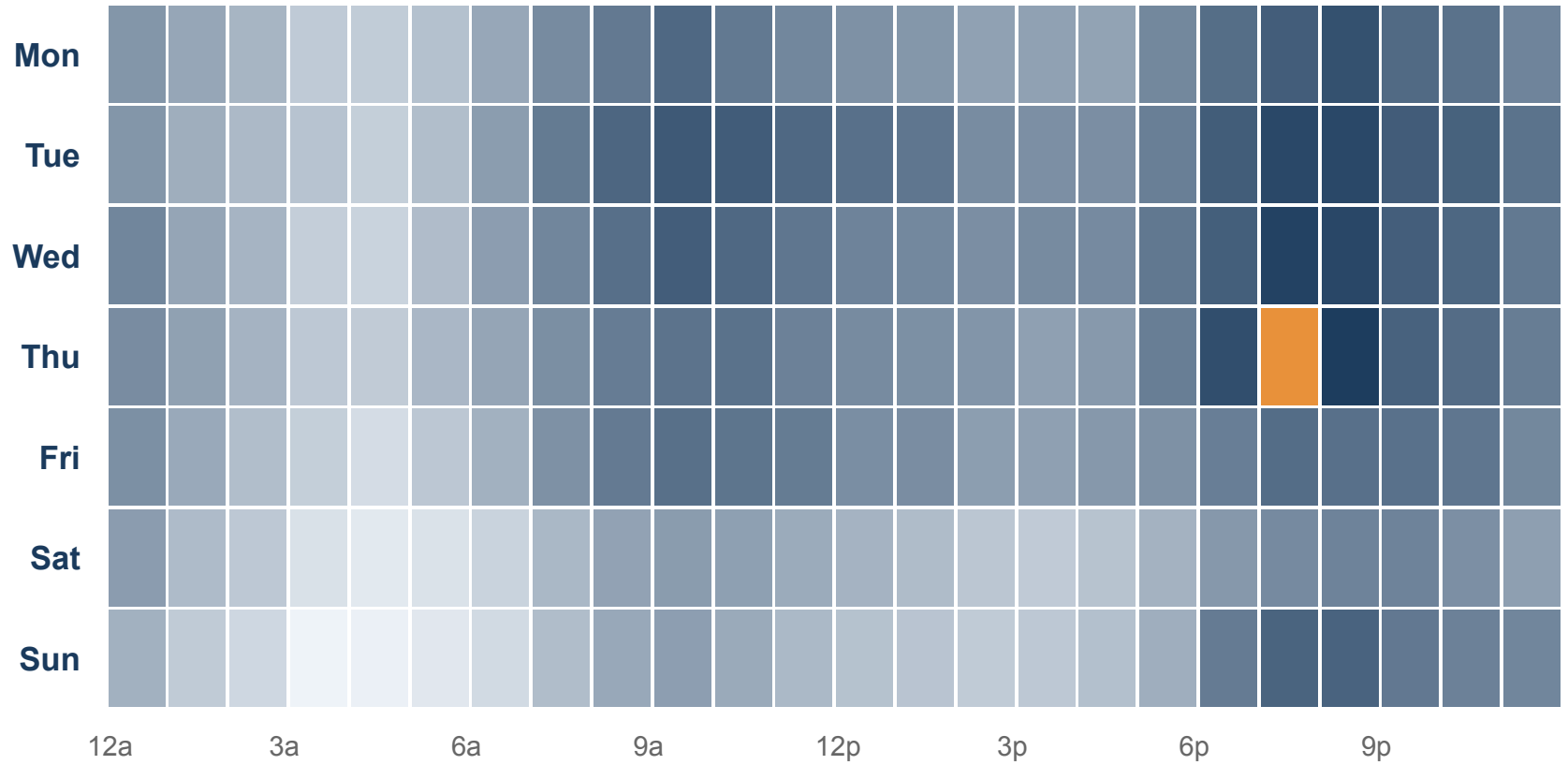
total participant capacity today

Participant port capacity by port speed, Tbps (quarterly)



Physical participant ports in switch configs (Oxidized), excluding two configured-but-unused 100G ports.

When the Bay Peers



293 Gbps

busiest: Thursdays 7 pm

185 Gbps

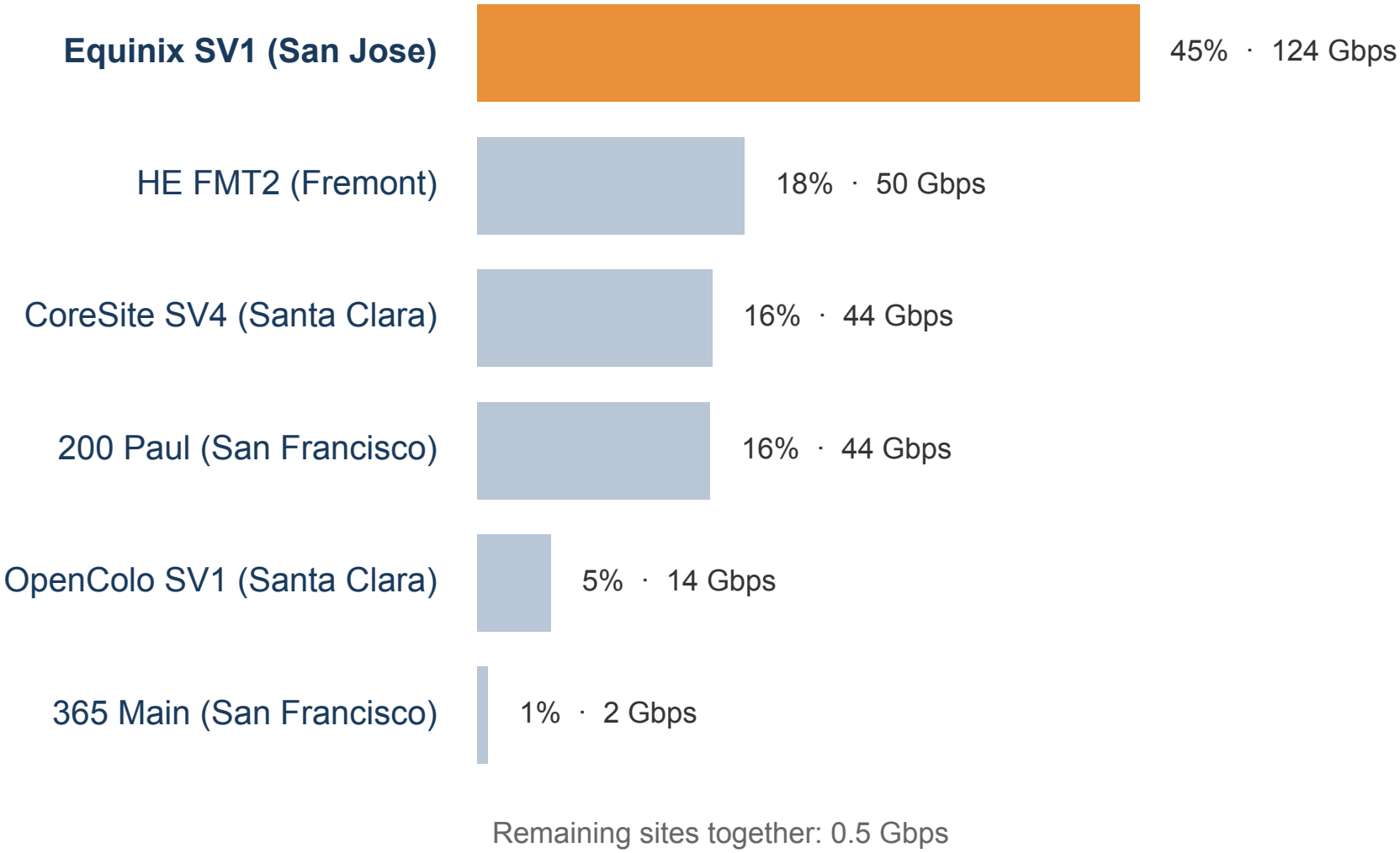
quietest: Sundays 3 am

1.6×

busiest vs. quietest hour

Average exchange traffic by hour of week (Pacific), last 90 days, 15-minute samples from Prometheus.

Equinix SV1 Carries 45% of Traffic



Participant-port ingress by site, 30-day average (Prometheus). Where participants hand traffic to the fabric.

Participants

12 new networks live since Oct 2025

100G

- Constant Company
- 39 AI
- ACE CDN

10G

- bgp.tools
- Together Computer
- General Research
- DACS-NX
- zfs.rent
- Sergio Zygmunt Group
- Bullroar Telecom
- Turtle Systems
- AS42615

In progress

- ESnet
- Cruzio
- City of San Francisco
- Surfnet
- IETF / NANOG

6 upgrades

Hurricane Electric
1 → 2 × 100G

OVHcloud
1 → 2 × 100G

Internet Archive
4 × 10G → 100G

Digital Monks
10G → 100G

NetActuate
10G → 100G

Salesforce
1 → 2 × 10G

2026 Plans: Progress

Area	Where it landed
SJC01 Equinix cab migration	✅ 2x 7280CR3-36S & 1x SR-1-24D
Partial routes / cache service on Nokia - ip.sfmix.org	✅ AS40271 runs on 2x Nokia SR-OS routers
Proxmox server upgrades	pve01.scl04 added; SSD TRIM cut storage stalls from 14 s to 0.3 s; still needs HW investment
Move 3rd-party servers to OpenColo	✅ OpenBSD route server moved to an OpenColo VM (Dec 2025); moved power draw heavy servers
Website migration from WPEngine	✅ Hugo site deployed from Git, in 5 “languages”
Sponsorship, community engagement	IP connectivity for NANOG 96, IETF 127; attended California Communications Assoc. Expo
Mailing list	✅ Google Groups to 3rd-party hosted Mailman3

New Tools for Participants

Participant Portal

Port status, optics, MACs, traffic graphs and route-server checks. Log in with PeeringDB.

portal.sfmix.org

Speed Test Server

iperf3, LibreSpeed, OpenSpeedTest, xfr and MikroTik btest.

snappy.sfmix.org

Network Map

Subway-style map and weathermap of every backbone link, colored by live traffic.

sfmix.org/network-map

LAN Events

Flags stray RA, DHCP, IGP and discovery traffic, with fixes per vendor.

portal.sfmix.org

Public Statistics

Exchange-wide traffic dashboard and IX-F member export on the portal.

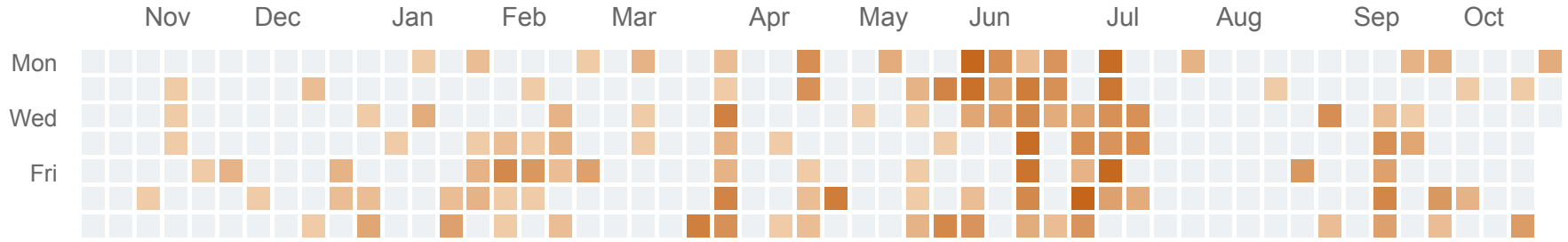
portal.sfmix.org

Built by Volunteers: A Year of Commits

805
commits since the last meeting

161k
lines of code and config added

120
days with at least one commit



Busiest stretch: early July, building the network map. Commits touching each part of the one shared repository:

300
Ansible

162
Portal

140
Looking glass

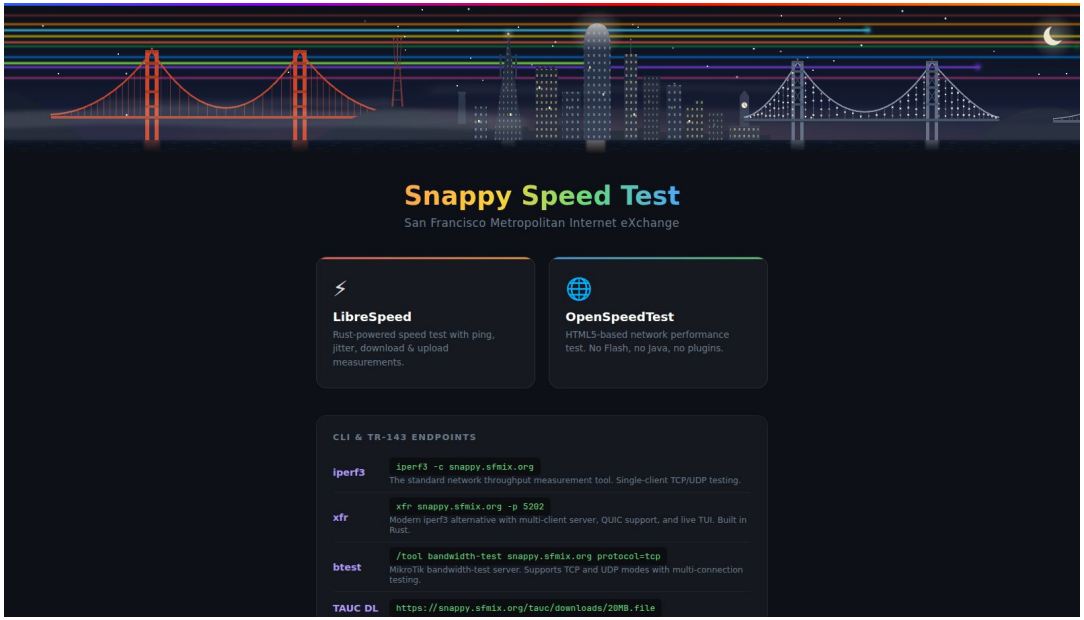
100
Website

99
Scripts

61
Network map

git log of the SFMIX infrastructure repository, Oct 22 2025 to Oct 28 2026. Darker = more commits that day.

Meet Snappy, Our Speed Test

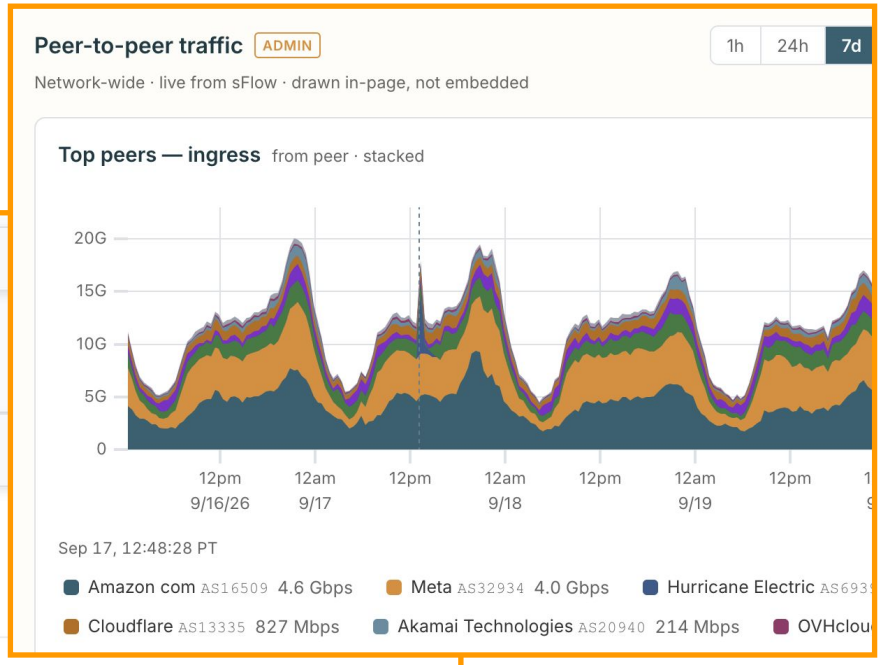


- Launched Feb 2026
- Browser tests: LibreSpeed, OpenSpeedTest, TAUC
- CLI tests: iperf3, xfr (QUIC + UDP), MikroTik btest
- Tuned for line rate: BBR, fq, 64 MB socket buffers
- Measure your path to ip.sfmix.org from any network

```
$ iperf3 -c snappy.sfmix.org -P 4      # upload
$ iperf3 -c snappy.sfmix.org -P 4 -R   # download
```

snappy.sfmix.org, captured Oct 29 2026.

Participant Portal



Two P AS6140 **Type:** Member **Ports:** 1 logical, 1 physical **Capacity:** 10G active

PeeringDB ↗ Website ↗ Alice LG ↗

`switch01.fmt01:` **Port-Channel114.998** LAG **1×10G**

L2 Link — PUBLIC

MAC ADDRESSES LEARNED ON PORT

MAC	VLAN	TYPE	FIRST SEEN	LAST SEEN
78:50:7c:3a:7a:91	998	dynamic	2026-06-18	0 minutes ago

L3 Network — PUBLIC

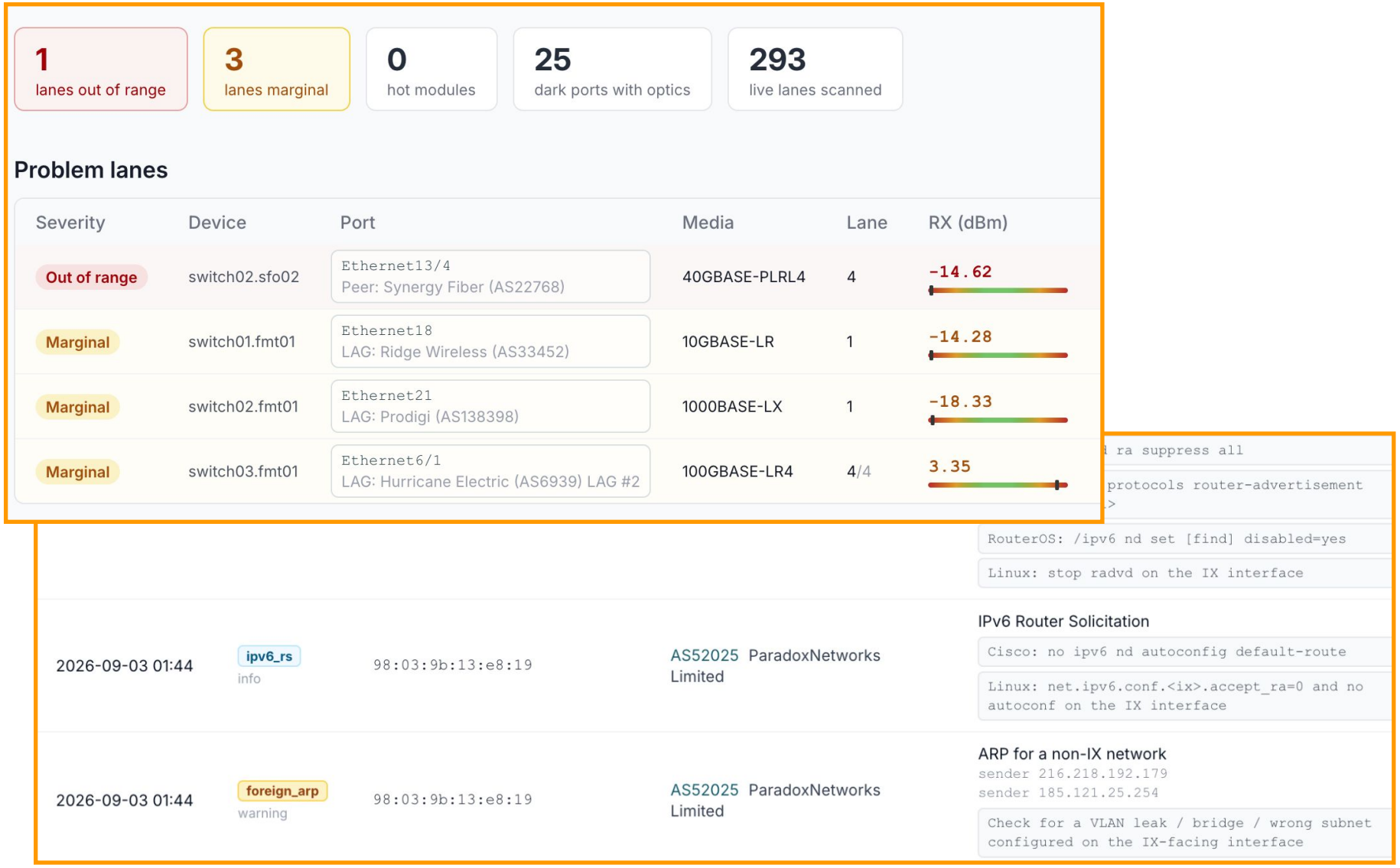
HEARD ON THE FABRIC · ARP/NDP

IP ADDRESS	MAC	FIRST SEEN	LAST SEEN
206.197.187.22	78:50:7c:3a:7a:91	2026-06-19	0 minutes ago
2001:504:30::ba00:6140:1	78:50:7c:3a:7a:91	2026-06-19	5 minutes ago

L4+ Route Servers — PUBLIC

ROUTE SERVER	STATE	UPTIME	AF	RECEIVED
BIRD/Linux Route Server ↗ 206.197.187.22	up	98d 1h	IPv4	12
			IPv6	—
BIRD/Linux Route Server ↗ 2001:504:30::ba00:6140:1	up	98d 1h	IPv6	3
Looking Glass Service ↗ 206.197.187.22	established	3d 6h	IPv4	12
			IPv6	—
Looking Glass Service ↗ 2001:504:30::ba00:6140:1	established	3d 6h	IPv6	3
OpenBGPD/OpenBSD Route Server ↗ 206.197.187.22	established	105d 1h	IPv4	12

Participant Portal



New map: sfmix.org/network-map



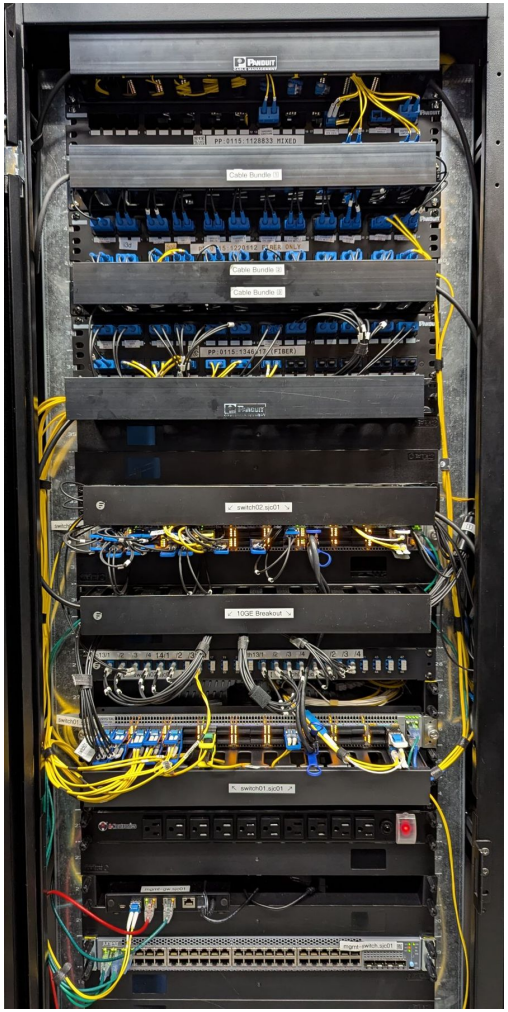
Live map captured Oct 28, 2026. Link colors show real-time utilization; tap any link or site on the website for details.

AS40271 Is in Production!

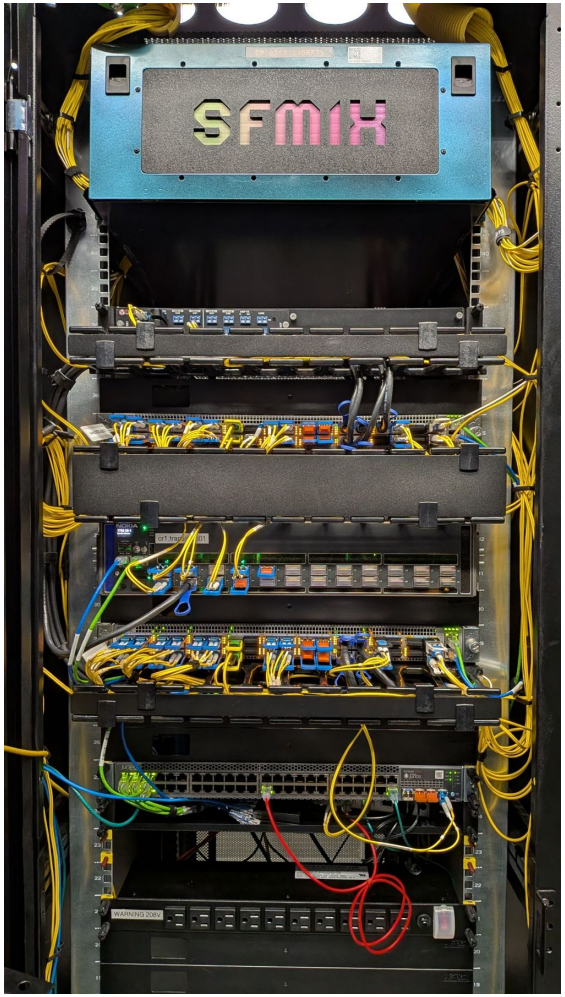
5	9	$300
content sources	Bay Area edge sites	per month per 10 Gbps, flat rate

- Opt-in caching and content co-op for local eyeball ISPs
- Sources: Google (VPP), Apple Edge Cache, Microsoft Connected Cache via Ninja-IX, Valve/Steam, Netskrt
- Moved from the Juniper MX proof of concept to Nokia SR-OS
- Renumbering into 149.112.188.0/23; the old /24 goes back to ARIN
- Details at ip.sfmix.org; presented at Euro-IX in May ‘26

SJC01 (Equinix) Migration

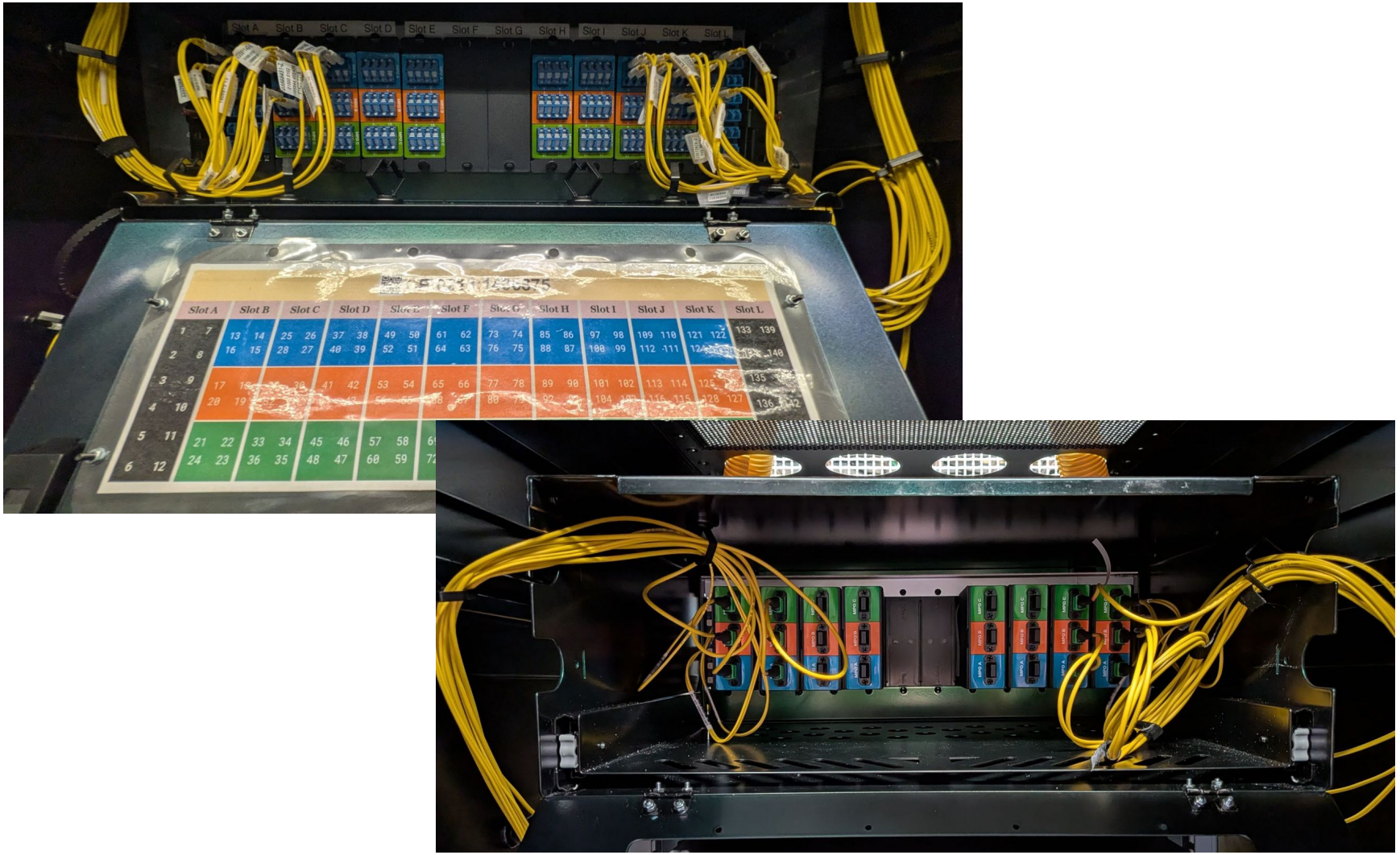


BEFORE

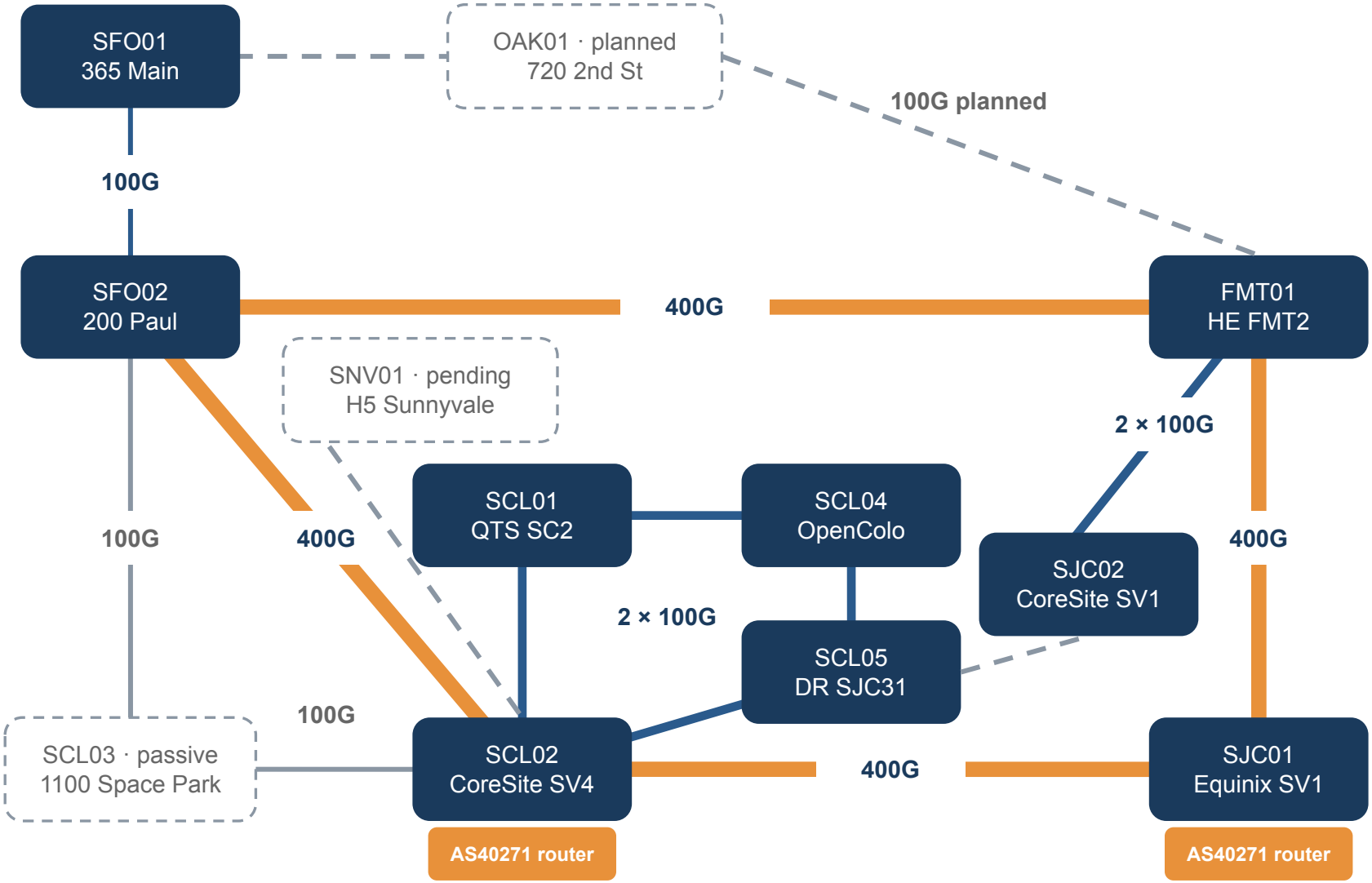


AFTER

SJC01 (Equinix) Migration



A 400G Ring Around the Bay



Generated from the network map's NetBox topology, Oct 28 2026. Orange: 400G ring. Gray: planned or via a passive site.

2027 Plans

Area	*Where it landed*
Soft maintenance window	Upgrade EOS to stable train, implement L2 ACL filtering on all participant ports, EVPN vs. static flood
Hard maintenance window	Migrate cross-x's to SFMIX standardized patch panel *(Fremont as most difficult)*
Sunnyvale	BIG Fiber delivered, Signed w/ H5 *(fka Element Critical)*, campus fiber continuity to Lumen, install by EOY
Telemetry, monitoring	Add SR-OS w/ IPFIX L2 to sFlow-RT pipeline
Improve automation	Re-generate participants JSON, route servers, etc automatically w/ fallback mechanisms
Increase security	w/ flood of CVE's, upgrade external services, move more behind 2FA out-of-band network
Additional services, survey	Backup transit, L2 transport, OTDR rental pool, etc - ultimately what participants ask for, SLA limits

Expansion

Sacramento

FIBER

Neither available 😕 Fidium (fka Consolidated) or State of CA Middle Mile: still being built

OUTREACH

Attended CalCom Expo, Sept ’26

STEPPING STONE

Stockton as an intermediate site: 3807 Coronado Ave



3807 Coronado Ave, Stockton

Financial

	2024	2025	2026 (as of Oct 28)
Income	$302,361	$366,440	$372,666
OpEx	$69,712	$99,744	$73,932
CapEx	$49,609	$145,217	**$174,932**
Bank balance	$154,186 (EOY)	$140,499 (EOY)	$143,926 (current)

2026 highlights

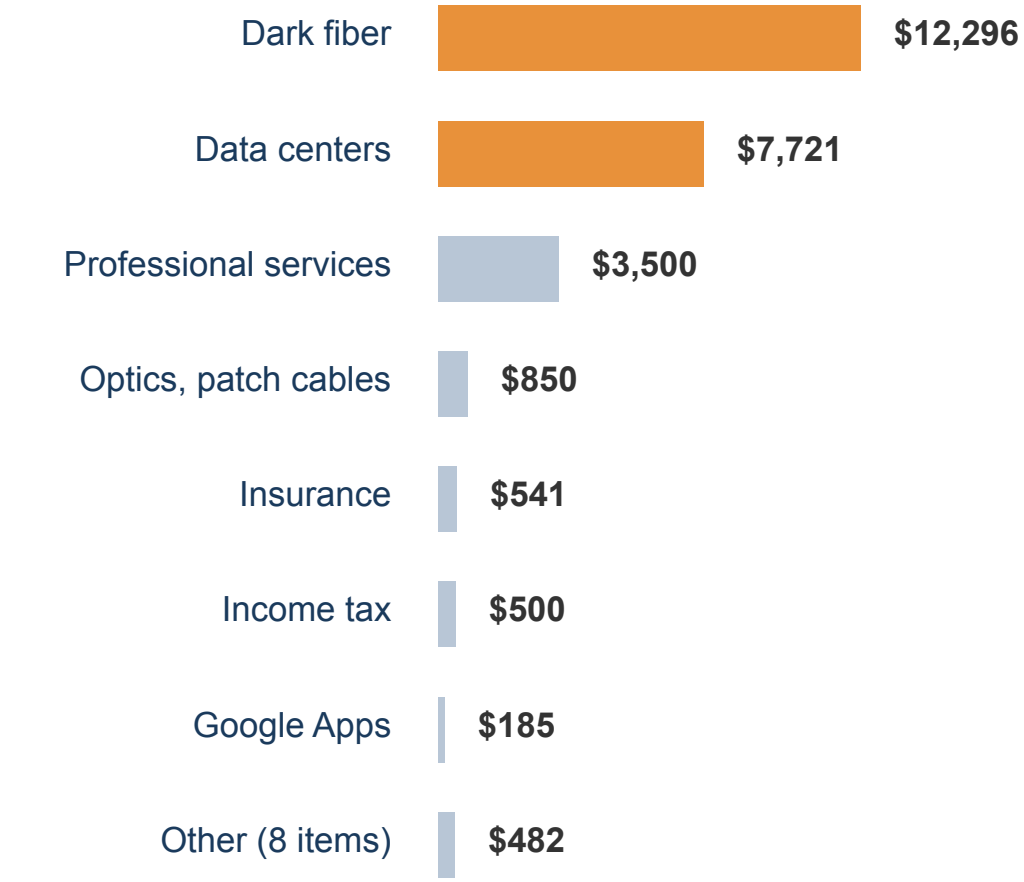
All backbone fiber delivered

2× Nokia 400G switches in January

NANOG sponsorship (professional services)

Typical 2026 Monthly OpEx

Average per month



$26,074

total expenses per month

DARK FIBER

BIG & Boldyn have fully delivered, all below market rate. Thank 💗 you!

DATA CENTERS

Well below market rate or pro bono. Thank 💗 you!

PROFESSIONAL SERVICES

Well below market rate, quarter time. Thanks 💗 Matt!

Other: Bank/Stripe fees $150, CPA $125, Bookkeeping $70, Xero $55, ARIN $43.75, PO Box $20.83, 1Password $14.10, Domain names $3. Several annual payments are shown per month (ARIN, PO Box, etc.).

Thank You to Our Sponsors

Equipment, space, power, fiber and time, donated or deeply discounted.





















Plus BIG Fiber and Boldyn for dark fiber at incredible prices, the data centers hosting us graciously, and every volunteer who drove to a colo for fun.

EOF

